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Anterior Maxillary Eruption Cyst- A Case Report

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Abstract:

The eruption cyst is a soft tissue benign cyst accompanying with an erupting primary or permanent teeth and appears shortly before appearance of these teeth in the oral cavity. The prevalence of eruption cysts of 22% among various maxillary cystic lesions. It is a soft tissue analogue of the dentigerous cyst, but recognized as a separate clinical entity and having numbers of theories about their origin, and mostly occurs in an age range of 6–9 years, exact etiology of occurrence of eruption cyst is not clear. But it's found that early caries, trauma, infection and the deficient space for eruption as possible causative factors. Eruption cyst occurs most frequently on the right side than left and among males than in females. A 7 yr old male patient reported to the OPD with a painless swelling 2 weeks back in the upper front teeth region which was gradual in onset, gradually increased in size to attain the present size. After radiographically and histopathology reports it's diagnosed an eruption cyst. Parents of the child were given counselling regarding the lesion and were reassured that the swelling is not malignant tumour. Patient and the parents were advised to observe the swelling for another 2 weeks and will come for regular follow up.

Keywords:	*Dentigerous Cyst, Eruption, Primary Teeth, Swelling*
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1. Introduction

Eruption cysts are benign cysts that appear on the mucosa of a tooth shortly before its eruption. They may disappear by themselves but if they hurt, bleed or are infected they may require surgical treatment to expose the tooth and drain the contents.[1]

In the past, EC classified as a dentigerous cyst (DC) but according to the World Health Organization's classification of odontogenic tumors, the EC is a separate entity; it is a form of dentigerous cyst lying in the soft tissues with no bone involvement.[2] Disturbances of the dental development may result in anomalies which many times appear in the form of swelling of the overlying mucosa of the erupting deciduous or permanent teeth, mostly in children. Eruption cyst is one such lesion

associated with erupting teeth which on numerous occasions, due to its size or peculiar, purple-blue or bluish black color may result in tumor scare among the patients or concerned parents of a child.[1] Although there are a number of theories about their origin, both seem to arise from the separation of the epithelium from the enamel of the crown of the tooth due to an accumulation of fluid or blood in a dilated follicular space.[3] Knowledge among clinicians is very essential regarding this clinical entity to provide appropriate treatment.[1] Eruption cysts are usually asymptomatic and do not require treatment, however, if the cyst is symptomatic, it should be treated with simple surgical excision.[2]

2. Case Report:

A 7 year old male patient was reported to Talking Teeth Dental Clinic with complaints swelling in upper front teeth region since 2 weeks. Patient noticed a painless swelling 2 weeks back in the upper front teeth region which was gradual in onset, gradually increased in size to attain the present size. There is no history of pain, trauma, fever or any kind of discharge.

On inspection a unilateral well circumscribed, oval shaped, swelling on the labial attached gingiva of 51 extending anteriorly , from midline to distal aspect of 51 posteriorly. Its maximum dimensions were 1cmx8mm which was pink whitish in colour as that of adjacent mucosa with intact overlying mucosa without any secondary changes.

On Palpation inspectory findings were confirmed regarding size, shape & extent. It was non tender, soft, fluctuant & non compressible. Provisional diagnosis was Eruption Cyst and differential diagnosis were, Neonatal alveolar lymphangioma and Pyogenic granuloma. On aspiration straw coloured fluid tinged with blood was seen.

Transillumination test was performed and the test was positive. The eruption hematoma occurs because of bleeding from the gingiva during eruption and the accumulation of blood is external to the epithelium of the enamel, while in the eruption cyst, the cystic fluid mixes with the blood. The exact difference between the two is still unclear. Transillumination is a useful diagnostic aid to differentiate these two lesions - the eruption cyst glows under transillumination while the hematoma does not glow.[4]

Hematological Investigations reported Red blood cells: 5.75million (3.8-5.3 million)/mm^3

Hemoglobin: 9.0mg/dl(12-18)mg/dl, Total Leukocyte count: 12500(4200-10000)/mm^3, Differential Leukocyte Count: Lymphocytes: 17%(20-35)%, Monocytes: 05%(2-6)%, Neutrophils: 75.9%(60-70)%, Basophils: 0(0-1)%.ESR: 8 (1-10)mm/1^{st} hr, Bleeding time:2.10min(2-4)min, Clotting time: 4.05(6-10)min.

Radiographic Investigations showed IOPA of the lesion confirmed the presence of teeth No. 11 & 21 in the stage of eruption and there were no signs of bone involvement or any radiolucency surrounding these teeth.

Histopathological examination showed surface oral epithelium on the superior aspect, underlying lamina propria showed variable inflammatory cell infiltrate the deep portion of the specimen which represents the roof of the cyst showed thin layer of non-keratinizing squamous epithelium.

He was diagnosed with Eruption cyst overlying erupting 11 with mild gingivitis. Parents of the child were given counselling regarding the lesion and were reassured that the swelling is not malignant tumour. Patient

and the parents of the patient were advised to observe the swelling for another 2 weeks as it will rupture at its own & most probably will not need any surgical intervention.The patient was under regular follow up.

3. Discussion:

Bodner L, GoldStein J et al reported 24 cases with mean age 4.44 years, range 1.0 month - 12 years with EC were diagnosed and treated. EC was associated with natal teeth in two (8.3%) cases, with primary teeth in 10 (41.6%) cases and with permanent teeth in 12 (50%) cases. There was a gender predilection, the male to female ratio was 2:1. The primary mandibular central incisors and the permanent first molars were the most common site affected.[5]

Dhawan P,Kochhar G.K et al discussed two cases of EC. In 1st case, wait and watch phenomenon was initially observed as it was not associated with any discomfort and it was expected to erupt on its own. But after 15 days when the patient reported back again the cyst was still increasing in size. Therefore, incision and surgical exposure of the crown was performed.

In 2nd case, partial excision of soft tissue followed by compression of cyst was done as the cyst was large in size and long standing. It was present for a long time, associated with pain and gradually increased in size thus indicating surgical exposure.

A novel treatment modality suggested by Boj *et al*., consists of use of Er, Cr-YSGG laser for treatment of eruption cysts. Advantages over conventional lancing with scalpel include non-requirement of anesthesia, minimum operative bleeding and patient comfort. The high equipment cost and technique sensitivity of the procedure limits its use in clinical practice.[1]

On radiographic examination, it is difficult to distinguish the cystic space of eruption cyst because both the cyst and tooth are directly in the soft tissue of the alveolar crest and no bone involvement is seen in contrast to dentigerous cyst in which a well-defined unilocular radiolucent area is observed in the form of a half-moon on the crown of a non-erupted tooth.

Histologically, this cyst presents the same microscopic characteristics as the dentigerous cyst, with connective fibrous tissue covered with a fine layer of non-keratinized cellular epithelium.

Tunc E.S, Acikel H et al presented a paper in 2014-2015 in which they discussed 66 cases of EC and concluded that of the 66 ECs diagnosed in 53 patients, more than half (56.6%) were located in the maxilla, with the maxillary first primary molars the teeth most commonly associated with ECs (30.3%). Multiple ECs were diagnosed in 13 of the 53 patients. ECs had previously diagnosed in the primary dentition of 2 patients, 3 patients reported a history of trauma to primary teeth. In the majority of patients (46 cases, 86.8%), no treatment was provided, whereas surgical treatment was provided in the remaining 7 cases (13.2%).[2]

4. Conclusion:

Disturbances of the dental development may result in anomalies which many times appear in the form of swelling of the overlying mucosa of the erupting deciduous or permanent teeth, mostly in children. Eruption cyst is one such lesion associated with erupting teeth which on numerous occasions, due to its size or peculiar, purple-blue or bluish black colour may result in tumour scare among the patients or concerned parents of a child. Knowledge among clinicians is very essential regarding this clinical entity to provide appropriate treatment.[6-7]

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Figures with Legends:

Figure1: (Clinical view of eruption cyst)

Figure 2: (A cystic fluid with blood aspiration)

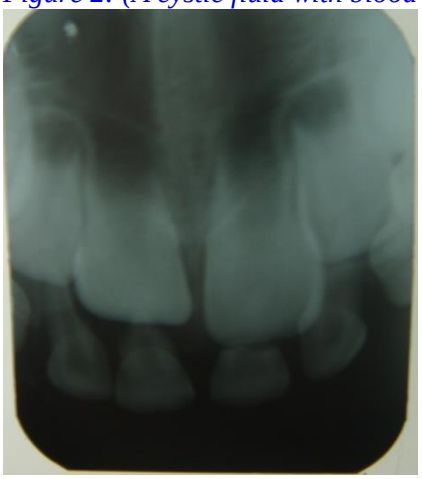

Figure 3: (IOPA presentd the prensence of permanent teeth)

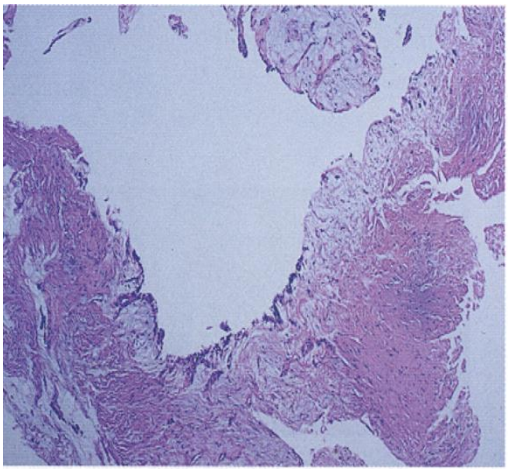

Figure 4: (Histological View H&E stain, 10X)